Work Order ID 112069

January-29-14 8:39:20 AM

112069

Item ID: D4634-3 **Accept** *N900040100* **Setup Start** *NS1*

Revision ID:

Item Name: Middle, Center Ceiling Panel **Stop** *NS2*

Start Date: 30/01/2014 **Start Qty:** 1.00 *1*

Required Date: 24/02/2014 **Req'd Qty:** 1.00 *1*

Reference:

Cust Item ID:

Customer:

Approvals: **Process Plan:** MP **Date:** 14/01/29 **Tooling:** _____ **Date:** _____

QC: _____ **Date:** _____ **SPC (Y/N):** _____ **Date:** _____

Run Start *NR1*

Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr / **Revision Nbr**: D4634 / E									
100		0.00							
100	HAND FINISHING THERMOFORMING					x1			WL 14/01/31
Thermoform	**Memo**	0.00							
Thermoforming Machine	Cut Blanks								
105		0.00							
105	Dry Material					x1			DK 14/01/31
HandThermo	**Memo**	0.00							
Hand Finishing Thermoforming	Dry Sheet as per QSI022 POLYCARBONATE								

Temp: 750° F

Time IN: 5:00 AM 14/01/30

Time OUT: 6:00 AM 14/01/31

DQA: _____ Date: _____

DART AEROSPACE

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: Date: Work Order update only ☐

Work Order: _____

Part No. _____

NCR No. _____

DISPOSITION

Rework ☐
Scrap ☐
Use-as-is ☐
Suspected Unapproved ☐

AGAINST DEPARTMENT/PROCESS

Skid-tube ☐ Crosstube ☐ Water Jet ☐ Engineering ☐
Machining ☐ Small Fab ☐ Prod. Eng. Coor. ☐ Quality ☐
Thermoforming ☐ Finishing ☐ Rec/Store/Packaging ☐ Other ☐
Large Fab ☐ Composite ☐ Supplier ☐

Root Cause		Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design	☐									
Doc/Data	☐									
Equip/Tooling	☐									
Handling/Pre	☐									
Material	☐									
Operator	☐									
Offset/Setup	☐									
Process	☐									
Supplier	☐									
Training	☐									
Transport	☐									
Unapproved	☐									

FAULT CATEGORY

Landing Gear

☐ Bending
☐ Centre Not Concentric
☐ Cracks
☐ Crimp/Kink/Ripple/Wave
☐ Cuffs
☐ Crushing
☐ Heat Treat
☐ Inspection Strip in Tube
☐ Marks/Chatter
☐ Turning Sequence
☐ Wave/Twist in Tube

General

☐ Bend
☐ BOM/Route
☐ Broken/Damage/Defect
☐ Burrs
☐ Contamination
☐ Countersink
☐ Cut Too Short
☐ Drawing
☐ Drill Holes
☐ Finish
☐ Fit/Function
☐ Folio/Program
☐ Grain
☐ Hardware
☐ Inspection Incomplete/Unqualified
☐ Instructions Incomplete/Unclear
☐ Misaligned/off center
☐ Mislabeled
☐ Misread
☐ Off-set
☐ Out of Calibration
☐ Out of Sequence
☐ Outside Dimensions
☐ Over/Under tolerance
☐ Part Incorrect
☐ Part Lost/Missing
☐ Part Moved
☐ Positioned Wrong
☐ Power Loss/Surge
☐ Pressure/Forced
☐ Set-up
☐ Temperature/Cure
☐ Weld
☐ Wrong Stock Pulled
☐ Other

Item ID: D4634-3 **Accept** *N900040100* **Setup Start** *NS1*
Revision ID: **Stop** *NS2*
Item Name: Middle, Center Ceiling Panel
Start Date: 30/01/2014 **Start Qty:** 1.00 *1*
Required Date: 24/02/2014 **Req'd Qty:** 1.00 *1*
Reference:
Cust Item ID:
Customer:

Approvals: **Process Plan:** _____ **Date:** _____ **Tooling:** _____ **Date:** _____
QC: _____ **Date:** _____ **SPC (Y/N):** _____ **Date:** _____

Run Start *NR1*
Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
110		0.00							
110	THERMOFORMING MACHINE					x1			DL 14/01/31
Thermoform	**Memo**	0.00							
Thermoforming Machine	Thermoform as per Dwg. D4634-3 and Folio FTA145								
	Dwg. Rev. E								
	Folio Rev. 0								
	Visually inspect for proper formation and texture								
130		0.00							
130	HAND FINISHING THERMOFORMING					x1			B 14/02/25
Thermoform	**Memo**	0.00							
Thermoforming Machine	Trim to Finished Dimensions								
140	QC- Inspect dimensions to drawing	0.00	DAS 16 9-89						
140	Dimensional Inspection								
QC	**Memo**	0.00							
Quality Control	Fill out Inspection Sheet Rev. A								

14/03/11

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

DART AEROSPACE

QA Closed: Date: Work Order update only ☐

Work Order: _____

Part No. _____

NCR No. _____

DISPOSITION

Rework ☐
Scrap ☐
Use-as-is ☐
Suspected Unapproved ☐

AGAINST DEPARTMENT/PROCESS

Skid-tube ☐ Crosstube ☐ Water Jet ☐ Engineering ☐
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Thermoforming ☐ Finishing ☐ Rec/Store/Packaging ☐ Other ☐
Large Fab ☐ Composite ☐ Supplier ☐ ☐

Root Cause		Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
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Doc/Data	☐									
Equip/Tooling	☐									
Handling/Pre	☐									
Material	☐									
Operator	☐									
Offset/Setup	☐									
Process	☐									
Supplier	☐									
Training	☐									
Transport	☐									
Unapproved	☐									

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☐ Part Moved
☐ Positioned Wrong
☐ Power Loss/Surge
☐ Pressure/Forced
☐ Set-up
☐ Temperature/Cure
☐ Weld
☐ Wrong Stock Pulled
☐ Other _____

Item ID: D4634-3 **Accept** *N9000040100* **Setup Start** *NS1*
Revision ID: **Stop** *NS2*
Item Name: Middle, Center Ceiling Panel
Start Date: 30/01/2014 **Start Qty:** 1.00 *1*
Required Date: 24/02/2014 **Req'd Qty:** 1.00 *1*
Reference:
Cust Item ID:
Customer:

Approvals: **Process Plan:** _____ **Date:** _____ **Tooling:** _____ **Date:** _____
QC: _____ **Date:** _____ **SPC (Y/N):** _____ **Date:** _____

Run Start *NR1*
Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
150	QC5- Inspect part completeness to step on W/O	0.00							
150									
QC	**Memo** MAS	0.00							
Quality Control									
160		0.00							
160	Packaging								
Packaging	**Memo** med Fab	0.00				①	SAP	14/03/11	
Packaging									
170	QC21- Final Inspection - Work Order Release	0.00							
170									
QC	**Memo**	0.00				MCJ	140312		
Quality Control									

MP 14-3-14

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

DART AEROSPACE

QA Closed: Date: Work Order update only ☐

Work Order: _____

Part No. _____

NCR No. _____

DISPOSITION

Rework ☐
Scrap ☐
Use-as-is ☐
Suspected Unapproved ☐

AGAINST DEPARTMENT/PROCESS

Skid-tube ☐ Crosstube ☐ Water Jet ☐ Engineering ☐
Machining ☐ Small Fab ☐ Prod. Eng. Coor. ☐ Quality ☐
Thermoforming ☐ Finishing ☐ Rec/Store/Packaging ☐ Other ☐
Large Fab ☐ Composite ☐ Supplier ☐ ☐

Root Cause		Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
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Doc/Data	☐									
Equip/Tooling	☐									
Handling/Pre	☐									
Material	☐									
Operator	☐									
Offset/Setup	☐									
Process	☐									
Supplier	☐									
Training	☐									
Transport	☐									
Unapproved	☐									

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☐ Turning Sequence
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☐ Out of Sequence

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☐ Part Lost/Missing
☐ Part Moved
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☐ Power Loss/Surge

☐ Pressure/Forced
☐ Set-up
☐ Temperature/Cure
☐ Weld
☐ Wrong Stock Pulled

☐ Other _____

Picklist Print

January-29-14 8:39:24 AM

Work Order ID: 112069 *112069*

Parent Item: D4634-3 *D4634-3*

Parent Item Name: Middle, Center Ceiling Panel

Start Date: 30/01/2014 **Required Date:** 24/02/2014

Start Qty: 1.00 **Required Qty:** 1.00

Comments: IPP Rev. A New Issue 12/05/07 DL VERIFIED BY:JLM IPP Rev. B Dwg. Update 13/07/09 DL verf:DD IPP Rev C Dwg Update, Material Change 13/12/18 DL IPP Rev D 14/01/20 Dwg. Update DL

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
MLEXS.093-F6006-07		Purchased	No			100	sf	1,385.760	17.33	18			

MLEXS.093-F6006-07

GE PLASTICS LEXAN SHEET

**

Location	Loc Qty	Loc Code
MAT023	1385.76	
114459	229.26	
123105	38	
124501	1118.5	

18 Sq ft.

14/01/20

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

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Part No. _____

NCR No. _____

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Scrap ☐
Use-as-is ☐
Suspected Unapproved ☐

AGAINST DEPARTMENT/PROCESS

Skid-tube ☐ Crosstube ☐ Water Jet ☐ Engineering ☐
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Thermoforming ☐ Finishing ☐ Rec/Store/Packaging ☐ Other ☐
Large Fab ☐ Composite ☐ Supplier ☐ ☐

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Doc/Data	☐									
Equip/Tooling	☐									
Handling/Pre	☐									
Material	☐									
Operator	☐									
Offset/Setup	☐									
Process	☐									
Supplier	☐									
Training	☐									
Transport	☐									
Unapproved	☐									

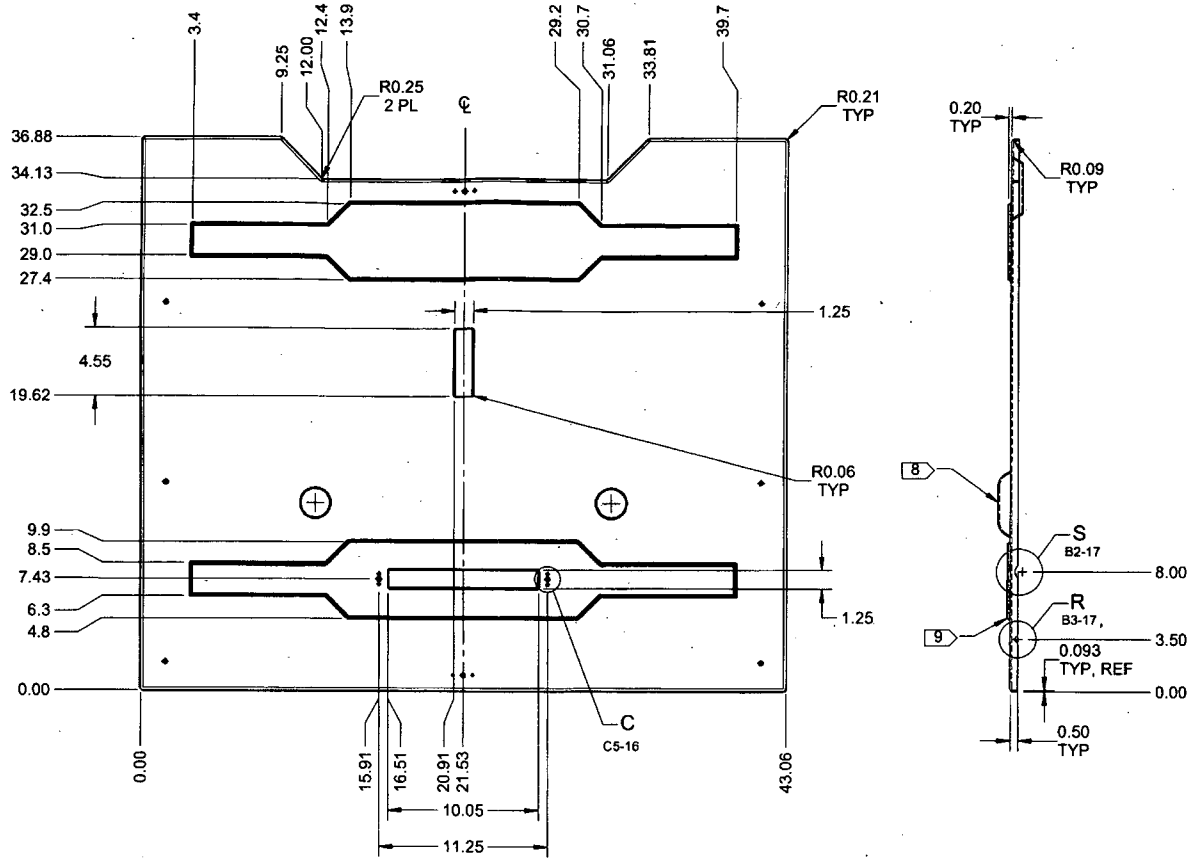
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☐ Pressure/Forced
☐ Set-up
☐ Temperature/Cure
☐ Weld
☐ Wrong Stock Pulled
☐ Other _____



112069MP
14-01-29

NOTES:
1) MATERIAL: F6006 SUEDE/POLISHED GY5B133 LIGHT GREY LEXAN SHEET 0.093 THICK
(REF DART SPEC MLEXS.093-F6006-07)
2) FINISH: N/A
3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
4) UNITS: INCHES UNLESS OTHERWISE NOTED
5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
6) IDENTIFICATION: N/A
7) WEIGHT: 6.49 lbs
8) TEXTURE ON THIS SIDE
9) 0.14 RADIUS NOT SHOWN FOR CLARITY
10) DRILL & TRIM D4634-3 PER TOOL DT9837
11) THERMOFORM PER QSI 022 USING DT9845 TOOL
MIN. THICKNESS AFTER FORMING:
EDGES = 0.060
ELSEWHERE = 0.070
12) LOCATE ⌀2.030 AT CENTER OF PROTRUDED SURFACE AS SHOWN

D4634-3 MIDDLE, CENTER CEILING PANEL

RELEASED
2014 -01- 22

DESIGN	RF	**DART AEROSPACE LTD** HAWKESBURY, ONTARIO, CANADA
DRAWN	RF	
CHECKED		DRAWING NO. D4634 REV. E SHEET 12 OF 17
MFG. APPR.		
APPROVED		TITLE CENTER CEILING PANELS SCALE NTS
DE APPR.		
DATE	14.01.09	

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DQA: _____ Date: _____

DART AEROSPACE

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: Date: Work Order update only ☐

Work Order: _____

Part No. _____

NCR No. _____

DISPOSITION

Rework ☐
Scrap ☐
Use-as-is ☐
Suspected Unapproved ☐

AGAINST DEPARTMENT/PROCESS

Skid-tube ☐ Crosstube ☐ Water Jet ☐ Engineering ☐
Machining ☐ Small Fab ☐ Prod. Eng. Coor. ☐ Quality ☐
Thermoforming ☐ Finishing ☐ Rec/Store/Packaging ☐ Other ☐
Large Fab ☐ Composite ☐ Supplier ☐ ☐

Root Cause		Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design	☐									
Doc/Data	☐									
Equip/Tooling	☐									
Handling/Pre	☐									
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Operator	☐									
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Supplier	☐									
Training	☐									
Transport	☐									
Unapproved	☐									

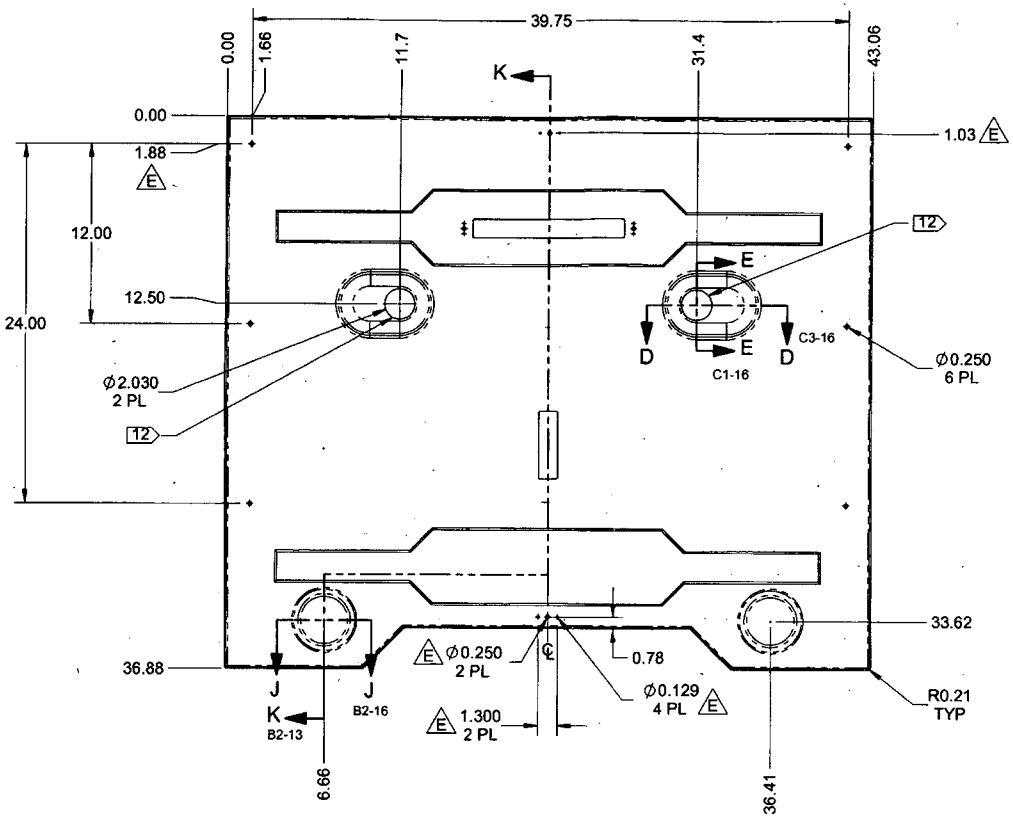
FAULT CATEGORY

Landing Gear

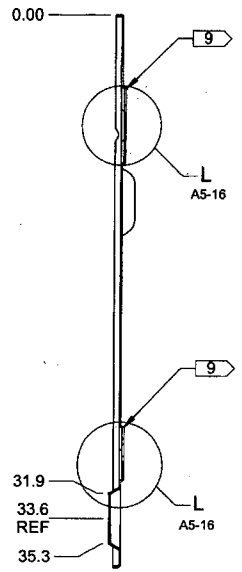
☐ Bending
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☐ Crushing
☐ Heat Treat
☐ Inspection Strip in Tube
☐ Marks/Chatter
☐ Turning Sequence
☐ Wave/Twist in Tube

General

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☐ BOM/Route
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☐ Set-up
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☐ Weld
☐ Wrong Stock Pulled
☐ Other



D4634-3 MIDDLE, CENTER CEILING PANEL
AUXILIARY VIEW



SECTION K-K B6-13

RELEASED
2014 -01- 22

DESIGN	RF	**DART AEROSPACE LTD** HAWKESBURY, ONTARIO, CANADA
DRAWN	RF	DRAWING NO. D4634 REV. E
CHECKED	BC	SHEET 13 OF 17
MFG. APPR.		TITLE CENTER CEILING PANELS SCALE NTS
APPROVED		
DE APPR.		
DATE	14.01.09	

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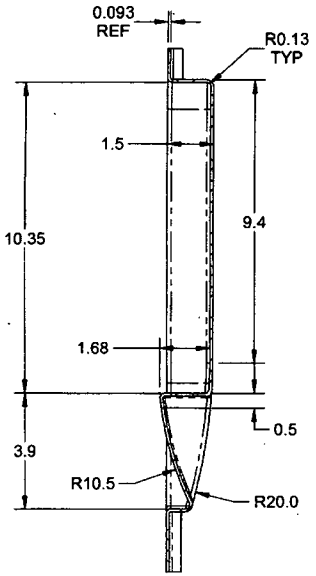
FAULT CATEGORY

Landing Gear

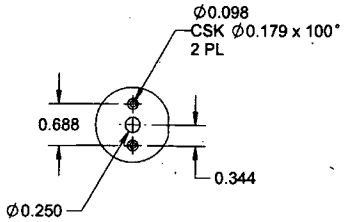
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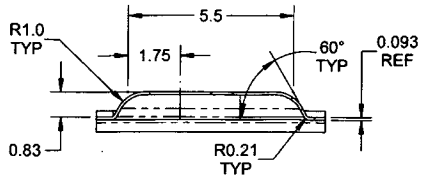
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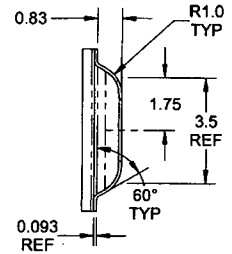
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SCALE 4X



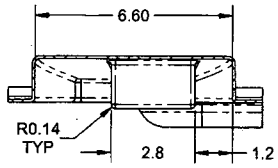
DETAIL C B7-10 B4-12 B4-14
SCALE 4X



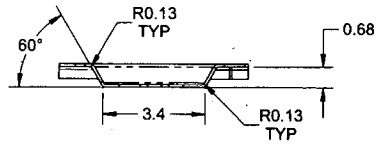
SECTION D-D B6-11 C4-13 C4-15
SCALE 2X



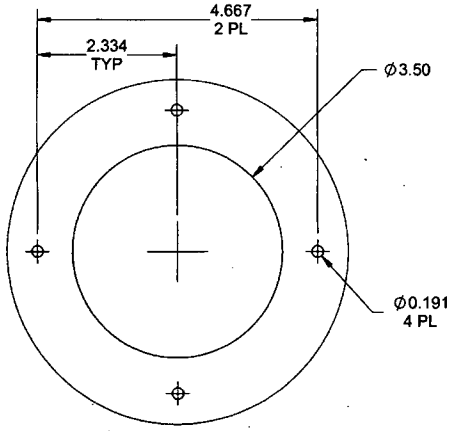
SECTION E-E B5-11 C4-13 C5-15
SCALE 4X



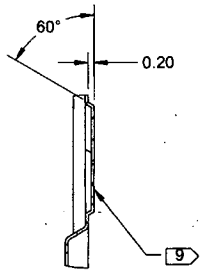
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SCALE 2X



SECTION J-J B6-13
SCALE 2X



E **DETAIL B** B7-10
SCALE 4X
2 PL



DETAIL L B2-13 C2-13 B2-14 C2-14
SCALE 4X
TYP

RELEASED
2014 -01- 22

DESIGN	RF	**DART AEROSPACE LTD**	
DRAWN	RF	HAWKESBURY, ONTARIO, CANADA	
CHECKED	BC	DRAWING NO.	REV. E
MFG. APPR.		D4634	SHEET 16 OF 17
APPROVED		TITLE	SCALE
DE APPR.		CENTER CEILING PANELS	NTS
DATE	14.01.09		

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DQA: _____ Date: _____

DART AEROSPACE

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: Date: Work Order update only ☐

Work Order: _____

Part No. _____

NCR No. _____

DISPOSITION

Rework ☐
Scrap ☐
Use-as-is ☐
Suspected Unapproved ☐

AGAINST DEPARTMENT/PROCESS

Skid-tube ☐ Crosstube ☐ Water Jet ☐ Engineering ☐
Machining ☐ Small Fab ☐ Prod. Eng. Coor. ☐ Quality ☐
Thermoforming ☐ Finishing ☐ Rec/Store/Packaging ☐ Other ☐
Large Fab ☐ Composite ☐ Supplier ☐ ☐

Root Cause		Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design	☐									
Doc/Data	☐									
Equip/Tooling	☐									
Handling/Pre	☐									
Material	☐									
Operator	☐									
Offset/Setup	☐									
Process	☐									
Supplier	☐									
Training	☐									
Transport	☐									
Unapproved	☐									

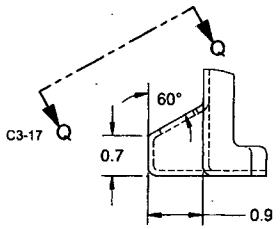
FAULT CATEGORY

Landing Gear

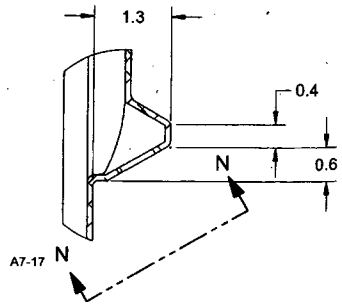
☐ Bending
☐ Centre Not Concentric
☐ Cracks
☐ Crimp/Kink/Ripple/Wave
☐ Cuffs
☐ Crushing
☐ Heat Treat
☐ Inspection Strip in Tube
☐ Marks/Chatter
☐ Turning Sequence
☐ Wave/Twist in Tube

General

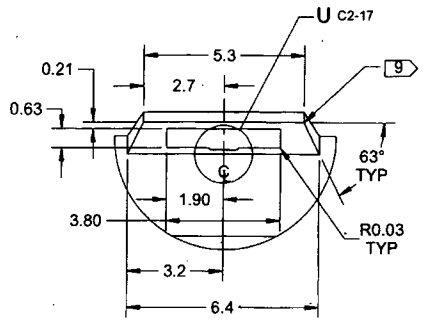
☐ Bend
☐ BOM/Route
☐ Broken/Damage/Defect
☐ Burrs
☐ Contamination
☐ Countersink
☐ Cut Too Short
☐ Drawing
☐ Drill Holes
☐ Finish
☐ Fit/Function
☐ Folio/Program
☐ Grain
☐ Hardware
☐ Inspection Incomplete/Unqualified
☐ Instructions Incomplete/Unclear
☐ Misaligned/off center
☐ Mislabeled
☐ Misread
☐ Off-set
☐ Out of Calibration
☐ Out of Sequence
☐ Outside Dimensions
☐ Over/Under tolerance
☐ Part Incorrect
☐ Part Lost/Missing
☐ Part Moved
☐ Positioned Wrong
☐ Power Loss/Surge
☐ Pressure/Forced
☐ Set-up
☐ Temperature/Cure
☐ Weld
☐ Wrong Stock Pulled
☐ Other _____



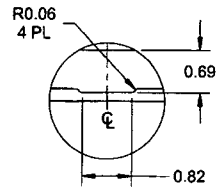
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SCALE 2X



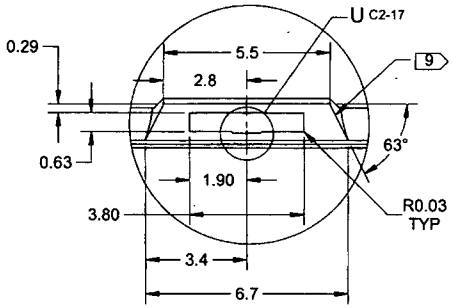
DETAIL M C3-10
SCALE 2X



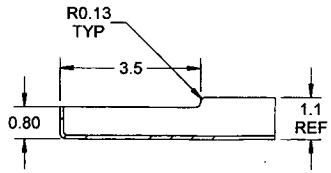
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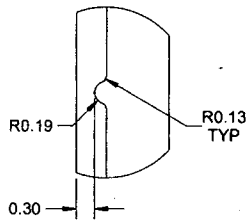
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SCALE 0.5X



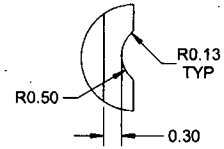
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SCALE 0.5X



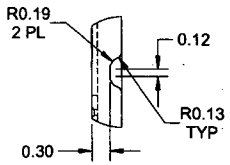
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SCALE 1.3X



DETAIL R B3-10 C3-10 B2-12
SCALE 4X



DETAIL S B3-10 C2-12
SCALE 4X



DETAIL T C2-14
SCALE 4X

RELEASED
2014 -01- 22

DESIGN	RF	**DART AEROSPACE LTD** HAWKESBURY, ONTARIO, CANADA
DRAWN	RF	
CHECKED	DC	DRAWING NO. D4634 REV. E
MFG. APPR.		SHEET 17 OF 17
APPROVED		TITLE CENTER CEILING PANELS SCALE NTS
DE APPR.		
DATE	14.01.09	

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DART AEROSPACE

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Material	☐									
Operator	☐									
Offset/Setup	☐									
Process	☐									
Supplier	☐									
Training	☐									
Transport	☐									
Unapproved	☐									

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☐ Crimp/Kink/Ripple/Wave
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☐ Finish
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☐ Out of Sequence
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☐ Part Moved
☐ Positioned Wrong
☐ Power Loss/Surge
☐ Pressure/Forced
☐ Set-up
☐ Temperature/Cure
☐ Weld
☐ Wrong Stock Pulled
☐ Other

DART AEROSPACE LTD

Description:	Middle Center Ceiling Panel	**Work Order:**	112069
Inspection Drawing:	D4634-3	**Rev:** E	**Part Number:** D4634-3

INSPECTION SHEET

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
4.55	+/- 0.030	4.55	✓		tape	SFAB-21
7.43	+/- 0.030	7.43	✓		↓	
1.25	+/- 0.030	1.25	✓		↓	
10.05	+/- 0.030	10.05	✓		↓	
11.25	+/- 0.030	11.25	✓		↓	
12.00	+/- 0.030	12.00	✓		↓	
24.00	+/- 0.030	24.00	✓		↓	
12.50	+/- 0.030	12.50	✓		↓	
11.7	+/- 0.100	11.7	✓		↓	
31.4	+/- 0.100	31.4	✓		↓	
39.75	+/- 0.030	39.75	✓		↓	
1.300	+/- 0.100	1.30	✓		↓	
Ø 0.250	+/- 0.005 -0.001	60.250	✓		Vern	SFAB 08
Ø 0.129	+/- 0.005 -0.001	60.129	✓		↓	
Ø 0.250	+/- 0.005 -0.001	Ø 0.250	✓		↓	
0.688	+/- 0.010	0.688	✓		↓	
0.344	+/- 0.010	0.344	✓		↓	
Ø 0.250	+/- 0.005 -0.001	Ø 0.250	✓		↓	
Ø 0.098	+/- 0.004 -0.001	Ø 0.098	✓		↓	
Ø 2.030	+/- 0.010	Ø 2.030	✓		↓	

Measured by:	Checked By:	QC inspector:	Engineering Approval (*if necessary*):
SAD	DAS 16 9-89	DAS 16 9-89	
Date 14/03/10	Date 14/03/11	Date 14/03/11	Date